Opening Statement By Chairman Brad Miller

Five months ago, the Subcommittee held a hearing titled: *The Science of Security: Lessons Learned in Developing, Testing and Operating Advanced Radiation Monitors*. That hearing examined technical problems in the development of the Domestic Nuclear Detection Office's (DNDO's) new generation of radiation portal monitors called Advanced Spectroscopic Portals or ASPs. Among the issues the Subcommittee had expressed an interest in was the impact a reported shortage of Helium-3 was having on the ASP program.

At that hearing, Dr. Bill Hagan, the Acting Director of DNDO, (who joins us again today) testified that the shortage of Helium-3 was so severe that two months earlier a White House Interagency Policy Committee (IPC) had barred DNDO from using Helium-3 in radiation portal monitors. Since the Department had not informed the Subcommittee of this situation, and the written testimony submitted to the Subcommittee also failed to make reference to the decision, we were surprised by the testimony. We were not the only ones to be surprised, among others taken by surprise was DNDO's the main ASP contractor, Raytheon.

What we have learned since is that both the Department of Energy and the Department of Homeland Security should have known several years ago that it would be a disaster to base radiation-detecting equipment on helium-3 technology. Helium-3 is a byproduct of tritium, and tritium's only purpose is to enhance the capability of nuclear weapons. Until recently, no tritium had been produced in this country since 1988, and the reduction in the nation's stockpile of nuclear weapons guaranteed a reduction in the stockpile of tritium – and helium-3.

After 9/11 – at the same time the supply was significantly decreasing – the demand for helium-3 grew exponentially for use in radiation detection devices It was also expanding for spallation neutron facilities worldwide, cyrogenic and medical research, and oil and gas exploration. The Department of Energy, which not only produces and sells helium-3, but is one of its largest consumers through the Megaports and Second Line of Defense programs and the Spallation Neutron Source at Oak Ridge, never – not once – warned anyone that there was no long-term supply for all of these uses, and they should begin looking for alternatives. In fact, in 2006, when there was only 150,000 liters left in the stockpile and many other users lined up, DOE told the Department of Homeland Security that there was enough for the 120,000 liters then estimated for the first phase of the ASP program. The result was that in mid-2008 when commercial vendors began to warn of a He-3 shortage, DHS didn't appear to have taken them seriously. It took several more months before there was government-wide acknowledgement of the severity of the problem.

The impacts of the helium-3 shortage are real and painful and extend well beyond Megaports, the Second Line of Defense and the ASP programs. Because of its unique physical properties, helium-3 plays a crucial role in oil and gas exploration, cryogenics (including low-temperature physics), quantum computing, neutron scattering facilities and medical lung imaging research. Important science is on hold in a wide range of fields and commercial opportunities for American firms that sell products using helium-3 have been lost. Over the past year the cost of obtaining Helium-3 has risen from around $200 per liter to more than $2,000 per liter.

The ongoing crisis has drastically delayed the ability of researchers and others to obtain helium-3 and prevented many firms and researchers from acquiring helium-3 at all, at any price. For many applications there are potential He-3 alternatives including boron-10 and lithium. For some work, particularly cryogenics-related applications, however, there are no known alternatives to using Helium-3 and these industries will need to continue to be supplied with He-3 if these industries and their scientific research programs are to continue.

Today, we will examine the causes and consequences of the Helium-3 supply crisis with a desire to learn lessons to guide future resource management. We also want to hear about the processes that are now in place to manage the limited supply of helium-3, to set priorities for access to that stockpile and the search for alternative sources and alternative gases. It is my understanding that allocations for 2010 have been determined, the gas is being processed and it will soon be distributed.

Looking back, it is clear that the shortage was inevitable. Helium-3 has been captured by the Department of Energy from the decay of tritium. With the end of the Cold War and the arms reduction agreements going back all the way to the Reagan Administration, the stockpile of tritium was not growing and so the production of Helium-3 would inevitably decline. Since 1991, DOE has allocated over 300,000 liters of helium-3, drawing the reserve down to a very low level by 2009. The annual production of Helium-3 from the U.S. tritium stockpile is now in the range of 8,000 liters per year and demand is orders of magnitude higher.

At the same time that production was declining, the demand for Helium-3 has been increasing since 9-11. Helium-3 has been a critical component in the portal radiation monitor programs at DHS and approximately 60,000 liters have been used in the current PVT systems alone. The ASP systems that Raytheon designed would have required, if a full acquisition had gone forward, approximately 200,000 liters of helium-3. The Department of Energy has its own radiation detection program in mega-ports with additional liters of helium-3 used in that program. Handheld and backpack radiation detection systems at DHS, DOE and also DOD

are another ongoing source of expanded demand since 9-11.

In addition to this new security-related source of demand, the Spallation Neutron Source project, also a DOE program was moving towards conclusion, with its main detector requiring an additional 17,000 liters. With countries around the world all pushing to get into SNS-style research, the global demand in coming years for Helium-3 from these detectors alone is expected to exceed 100,000 liters.

Since the shortage was inevitable, does it matter that DOE failed to see that their stockpile was evaporating? Yes, it absolutely does matter. If DOE had noticed the disconnect between growing demand and declining supply, they could have managed the stockpile with clear prioritization for highest use, and led an aggressive and timely search for alternatives to helium-3. These actions would have helped us avoid this crisis. It is astonishing that DOE did not see this coming.

It also astonishes me that DNDO did not validate that sufficient resources of helium-3 were available for the ASP program. A cautious and reasonable analyst would have sought a complete accounting from DOE before wagering years of effort and hundreds of millions of dollars.

Good crisis management is an inspiring thing to see in the government and I have to say that the current efforts of DNDO, DOE, DOD and other agencies under the orchestration of the National Security Council staff appears to be very well organized. They have set out to do a thorough survey of demand and have attempted to identify all outlying sources of supply. They are identifying alternative gases and locating international opportunities to temporarily expand the supply of Helium-3. All of this is laudatory, and can serve as a nice model for future interagency management of crises, but even better is to avoid a situation requiring crisis management in the first place. I hope that DOE has learned a lesson with Helium-3 that will lead to wiser management of the unique isotopes they control and distribute.

The final lesson I hope the agencies and the White House learn is that when a Subcommittee asks for your documents, you have to produce them or explain why you cannot. The Subcommittee wrote to both the Department of Energy and the Department of Homeland Security on March 8 requesting materials by March 29. Neither agency responded in a timely fashion. Neither agency has produced all of their materials, nor offered anything approaching a comprehensible explanation of the situation. Allegedly, some small set of documents were originally produced by White House staff and distributed to the agencies, and I have been surprised at the difficulty of getting the White House and the agencies to simply do the reviews that the precedents of legislative-executive relations suggest should properly occur for these documents, which do not appear to rise to the level of an executive privilege claim. I am hopeful that we will break this impasse soon.

The implications of the situation are that the Subcommittee is not as prepared for this hearing as we should properly be. The agencies have gone through elaborate fictional inter-agency courtesies allowing for duplicative, time-consuming reviews. There is no legal basis for these reviews. This has not only wasted time but is discourteous to the Committee. As a result, it is my intention to leave the hearing record open and, in consultation with my Ranking Member, Dr. Broun, to include in the record relevant materials that are responsive to my original letter. I will not rule out a second hearing on this subject if the documentary record contradicts testimony we receive today nor would I rule out taking any other steps necessary to compel production of agency records. I hope it won't come to that, but I had enough of stonewalling and slow rolls by the last Administration to have much patience with it from this Administration.

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